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Claims

1. Apparatus for processing a plurality of postal data elements, a first one of the plurality of postal data elements being a function of at least a second one of the plurality of postal data elements, the apparatus comprising:

a processor for arranging the plurality of postal data elements in an order where the second postal data element precedes the first postal data element; and

10 an output for providing a representation representing the plurality of postal data elements in the arranged order.

2. The apparatus of claim 1 wherein the representation includes at least one barcode.

15 3. The apparatus of claim 2 wherein the barcode is a 2-dimensional barcode.

SUB D27 4. The apparatus of claim 1 wherein the representation includes at least one data matrix symbol.

20 5. The apparatus of claim 1 wherein the second data element concerns a postage value, and the first data element concerns a descending register value.

25 6. The apparatus of claim 1 wherein the representation includes a bit map for a print image of at least one coded symbol representing the plurality of data elements.

7. Apparatus for processing a plurality of postal data elements, the apparatus comprising:  
a processor for arranging the plurality of postal data elements in an order such that each postal

*The print is claimed but does not define the apparatus functionally*

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data element preceding a second postal data element is independent of the second postal data element; and  
an output for providing a representation representing the plurality of postal data elements in the  
5 arranged order.

8. The apparatus of claim 7 wherein the representation includes at least one barcode.

9. The apparatus of claim 8 wherein the barcode is a 2-dimensional barcode.

10. The apparatus of claim 7 wherein the representation includes at least one data matrix symbol.

11. The apparatus of claim 7 wherein one of the plurality of the data elements concerns a postage value.

12. The apparatus of claim 7 wherein the representation includes a bit map for a print image of at least one coded symbol representing the plurality of postal data elements.

13. Apparatus for conducting a postage franking transaction to generate a representation representing data, the apparatus comprising:  
a processor for identifying a first subset of the data which is unaffected by the postage franking transaction and a second subset of the data which is  
25 subject to change during the postage franking transaction; and

an output for providing a representation representing the first subset of the data and the second subset of the data, the representation being partitioned  
30 into a first part and a second part thereof, the first subset of the data and the second subset of the data

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being represented by the first part and the second part, respectively.

14. The apparatus of claim 13 wherein the representation includes at least one coded symbol.

5 15. The apparatus of claim 14 wherein the coded symbol includes a barcode.

16. The apparatus of claim 15 wherein the barcode is a 2-dimensional barcode.

SUB 47  
10 17. The apparatus of claim 14 wherein the coded symbol includes a data matrix symbol.

18. The apparatus of claim 13 wherein the representation includes a first coded symbol and a second coded symbol, the first part including at least part of the first coded symbol.

15 19. The apparatus of claim 18 wherein the second part includes at least part of the second coded symbol.

20. Apparatus for conducting postage franking transaction, the apparatus comprising:

20 a processor for processing a plurality of data elements; and

an output for generating at least a first symbol and a second symbol representing the data elements, at least part of the first symbol representing a first subset of the data elements which is unaffected by the postage franking transaction, and at least part of the second symbol representing a second subset of the data elements which is subject to change during the postage franking transaction.

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21. The apparatus of claim 20 wherein the first symbol is generated before the second symbol.

22. The apparatus of claim 20 wherein at least one of the first and second symbols includes a barcode.

5 23. The apparatus of claim 22 wherein the barcode is a 2-dimensional barcode.

SUB 257 24. The apparatus of claim 20 wherein at least one of the first and second symbols includes a data matrix symbol.

10 25. The apparatus of claim 20 wherein the output includes a printer.

26. Apparatus for generating a postage indicium based on at least first data, the first data being a function of second data, the apparatus  
15 comprising:

a processor for determining at least one candidate for the first data based on a predicted version of the second data;

20 a comparator for comparing an actual version of the second data with the predicted version thereof; and

an output for generating the postage indicium based on the candidate for the first data when the actual version matches the predicted version.

27. The apparatus of claim 26 wherein the  
25 second data concerns a postage value.

28. The apparatus of claim 27 wherein the second data also concerns a mail class.

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29. The apparatus of claim 26 wherein the predicted version of the second data is statistically determined.

5 30. The apparatus of claim 26 wherein the predicted version of the second data includes a postage value indicated in the last postage indicium generated by the apparatus.

10 31. The apparatus of claim 26 wherein the first data concerns a code for authenticating the postage indicium.

32. The apparatus of claim 31 wherein the code includes at least part of a digital signature.

15 33. The apparatus of claim 26 wherein the processor includes the comparator.

34. Apparatus for creating a postage indicium representing a plurality of data elements, and at least one code for authenticating selected ones of the data elements, the apparatus comprising:  
20 an interface for receiving a request for creating the postage indicium; and  
a processor for performing computations to generate the code, selected ones of the computations being performed before the request is received, the code  
25 being generated based on results of the selected computations after the request is received.

35. The apparatus of claim 34 wherein the code includes a digital signature.

30 36. The apparatus of claim 35 wherein the selected computations include generation of a random number.

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37. The apparatus of claim 36 wherein the selected computations include a computation based on a value of the random number.

5 38. The apparatus of claim 35 wherein the selected computations include a computation of a signature value  $r$  in accordance with a digital signature algorithm (DSA).

10 39. The apparatus of claim 35 wherein the selected computations include a computation based on a value of a private key in accordance with a cryptographic algorithm.

SUB D67  
15 40. Apparatus for printing a symbol representing data, the data being disposed in at least a first segment and a second segment in the symbol, the first segment being separated from the second segment by a delimiter, the apparatus comprising:

20 at least a first printhead and a second printhead for printing the first and second segments, respectively, the first printhead being separated from the second printhead by a gap, the size of the gap being a function of the size of the delimiter.

41. The apparatus of claim 40 wherein the symbol includes a data matrix symbol.

42. The apparatus of claim 41 wherein the data matrix symbol is formatted in a dark on light format.

43. The apparatus of claim 41 wherein the data matrix symbol is formatted in a light on dark format.

44. The apparatus of claim 41 wherein the data matrix symbol includes finder patterns, and the delimiter  
30 forms part of the finder patterns.

DESIGN  
LIMIT  
PRINTHEAD  
APP. 9.2  
APP. 9.5

45. ~~The~~ The apparatus of claim 40 wherein the symbol includes a barcode.

46. A method for processing a plurality of postal data elements, a first one of the plurality of postal data elements being a function of at least a second one of the plurality of postal data elements, the method comprising:

arranging the plurality of postal data elements in an order where the second postal data element precedes the first postal data element; and

providing a representation representing the plurality of postal data elements in the arranged order.

47. The method of claim 46 wherein the representation includes at least one barcode.

48. The method of claim 47 wherein the barcode is a 2-dimensional barcode.

49. The method of claim 46 wherein the representation includes at least one data matrix symbol.

50. The method of claim 46 wherein the second data element concerns a postage value, and the first data element concerns a descending register value.

51. The method of claim 46 wherein the representation includes a bit map for a print image of at least one coded symbol representing the plurality of data elements.

52. A method for processing a plurality of postal data elements, the method comprising:

arranging the plurality of postal data elements in an order such that each postal data element preceding

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a second postal data element is independent of the second postal data element; and

providing a representation representing the plurality of postal data elements in the arranged order.

5           53. The method of claim 52 wherein the representation includes at least one barcode.

54. The method of claim 53 wherein the barcode is a 2-dimensional barcode.

10           55. The method of claim 52 wherein the representation includes at least one data matrix symbol.

56. The method of claim 52 wherein one of the plurality of the data elements concerns a postage value.

15           57. The method of claim 52 wherein the representation includes a bit map for a print image of at least one coded symbol representing the plurality of postal data elements.

58. A method for conducting a postage franking transaction to generate a representation representing data, the method comprising:

20           identifying a first subset of the data which is unaffected by the postage franking transaction and a second subset of the data which is subject to change during the postage franking transaction; and

25           providing a representation representing the first subset of the data and the second subset of the data, the representation being partitioned into a first part and a second part thereof, the first subset of the data and the second subset of the data being represented by the first part and the second part, respectively.



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59. The method of claim 58 wherein the representation includes at least one coded symbol.

60. The method of claim 59 wherein the coded symbol includes a barcode.

5                   61. The method of claim 60 wherein the barcode is a 2-dimensional barcode.

62. The method of claim 59 wherein the coded symbol includes a data matrix symbol.

10                   63. The method of claim 58 wherein the representation includes a first coded symbol and a second coded symbol, the first part including at least part of the first coded symbol.

64. The method of claim 63 wherein the second part includes at least part of the second coded symbol.

15                   65. A method for conducting postage franking transaction, the method comprising:  
                    processing a plurality of data elements; and  
                    generating at least a first symbol and a second symbol representing the data elements, at least part of  
20   the first symbol representing a first subset of the data elements which is unaffected by the postage franking transaction, and at least part of the second symbol representing a second subset of the data elements which is subject to change during the postage franking  
25   transaction.

66. The method of claim 65 wherein the first symbol is generated before the second symbol.

67. The method of claim 65 wherein at least one of the first and second symbols includes a barcode.

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68. The method of claim 67 wherein the barcode is a 2-dimensional barcode.

69. The method of claim 65 wherein at least one of the first and second symbols includes a data  
5 matrix symbol.

70. A method for generating a postage indicium based on at least first data, the first data being a function of second data, the method comprising:  
determining at least one candidate for the  
10 first data based on a predicted version of the second data;  
comparing an actual version of the second data with the predicted version thereof; and  
generating the postage indicium based on the  
15 candidate for the first data when the actual version matches the predicted version.

71. The method of claim 70 wherein the second data concerns a postage value.

72. The method of claim 71 wherein the second  
20 data also concerns a mail class.

73. The method of claim 70 wherein the predicted version of the second data is statistically determined.

74. The method of claim 70 wherein the  
25 predicted version of the second data includes a postage value indicated in the last postage indicium generated by the method.

75. The method of claim 70 wherein the first  
30 data concerns a code for authenticating the postage indicium.

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76. The method of claim 75 wherein the code includes at least part of a digital signature.

77. A method for creating a postage indicium representing a plurality of data elements, and at least  
5 one code for authenticating selected ones of the data elements, the method comprising:

performing computations to generate the code, wherein selected ones of the computations being performed before a request for creating the postage indicium is  
10 received;

receiving the request; and  
generating the code based on results of the selected computations after the request is received.

78. The method of claim 77 wherein the code  
15 includes a digital signature.

79. The method of claim 78 wherein the selected computations include generation of a random number.

80. The method of claim 79 wherein the  
20 selected computations include a computation based on a value of the random number.

81. The method of claim 78 wherein the selected computations include a computation of a signature value  $r$  in accordance with a DSA.

82. The apparatus of claim 78 wherein the  
25 selected computations include a computation based on a value of a private key in accordance with a cryptographic algorithm.

83. A method for use in an apparatus for  
30 printing a symbol representing data, the data being

disposed in at least a first segment and a second segment in the symbol, the first segment being separated from the second segment by a delimiter, the apparatus including at least a first printhead and a second printhead, the

5 method comprising:

separating the first printhead from the second printhead by a gap, the size of the gap being a function of the size of the delimiter; and

10 printing the first and second segments using the first and second printheads, respectively.

84. The method of claim 83 wherein the symbol includes a data matrix symbol.

85. The method of claim 84 wherein the data matrix symbol is formatted in a dark on light format.

15 86. The method of claim 84 wherein the data matrix symbol is formatted in a light on dark format.

87. The method of claim 84 wherein the data matrix symbol includes finder patterns, and the delimiter forms part of the finder patterns.

20 88. The method of claim 83 wherein the symbol includes a barcode.

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